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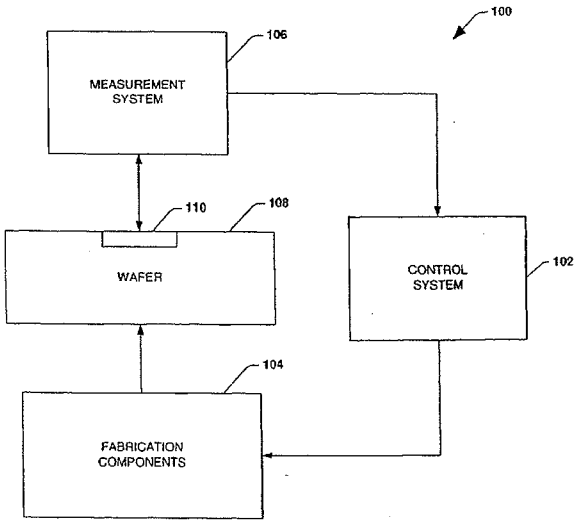
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(54) Title: USING SCATTEROMETRY TO OPTIMIZE CIRCUIT STRUCTURE MANUFACTURING PROCESSES



(57) Abstract: A system and methodology are disclosed for monitoring and controlling a semiconductor fabrication process. Measurements are taken in accordance with scatterometry based techniques of repeating in circuit structures that evolve on a wafer as the wafer undergoes the fabrication process. The measurements can be employed to generate feed forward and/or feedback control data that can utilized to selectively adjust one or more fabrication components and/or operating parameters associated therewith to adapt the fabrication process. Additionally, the measurements can be employed in determining whether to discard the wafer or portions thereof based on a cost benefit analysis, for example. Directly measuring in circuit structures mitigates sacrificing valuable chip real estate as test grating structures may not need to be formed within the wafer, and also facilitates control over the elements that actually affect resulting chip performance.

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